

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A digital delay line for use in a 3D audio sound system, comprising:

a first digital delay module providing a choice of delay within a first resolution for use in said 3D audio sound system, said first resolution being an integer value; and

a second digital delay module in series with said first delay module, said second digital delay module providing a choice of a plurality of additional fractional delays, each of said additional fractional delays being less than said first resolution;

wherein said first resolution is added to said additional fractional delays for use in said 3D audio sound system to create a perceived positional sound.

2. (original) The digital delay line for use in a 3D audio sound system according to claim 1, wherein said first delay module comprises:

a first-in, first out buffer.

3. (original) The digital delay line for use in a 3D audio sound system according to claim 1, wherein said second delay module comprises:

a choice of any one of a plurality of polyphase filters, each of said polyphase filters providing an additional fraction delay less than said first resolution.

4. (original) The digital delay line for use in a 3D audio sound system according to claim 1, further comprising:

a localization control module comprising an interaural time delay look-up table associating desired sound source locations with a particular interaural time delay.

5. (currently amended) The digital delay line for use in a 3D audio sound system according to claim 4, wherein said localization control module further comprises:

an integer and fractional delay selector adapted to determine a first digital time delay for use by said first delay module and said additional fractional delay for use by said second digital delay module.

6. (original) The digital delay line for use in a 3D audio sound system according to claim 1, wherein:

said first resolution is based on a sampling rate of a digital audio signal.

7. (currently amended) A method for providing an interaural time delay in a digital 3D sound system, comprising:

selecting one of a plurality of available first digital time delays having a first resolution between each of said plurality of available first time delays, said first resolution being an integer value providing a rough estimate of a desired interaural time delay;

additionally selecting one of a plurality of available second digital time delays, each of said plurality of available second time delays being a fractional delay providing a highly refined additional time delay less than said first resolution; and

adding said selected first digital time delay and said second digital time delay to provide a desired interaural time delay for use in said digital 3D sound system to create a perceived positional sound.

8. (original) The method for providing an interaural time delay in a digital 3D sound system according to claim 7, wherein:

said desired interaural time delay relates to a desired interaural time delay for one ear of a listener; and

said first time delay relates to a desired interaural time delay for a second ear of said listener.

9. (original) The method for providing an interaural time delay in a digital 3D sound system according to claim 7, wherein:

said plurality of available time delays are based on a sampling rate of a digital audio signal.

10. (original) The method for providing an interaural time delay in a digital 3D sound system according to claim 7, further comprising:

fixing a first interaural time delay with respect to a first ear of a listener; and

providing said desired interaural time delay with respect to a second ear of said listener.

11. (currently amended) Apparatus for providing an interaural time delay in a digital 3D sound system, comprising:

means for selecting one of a plurality of available first digital time delays having a first resolution between each of said plurality of available first time delays, said first resolution being an integer value providing a rough estimate of a desired interaural time delay;

means for additionally selecting one of a plurality of available second digital time delays, each of said plurality of available second time delays being a fractional delay providing a highly refined additional interaural time delay less than said first resolution; and

means for adding said selected first digital time delay and said second digital time delay to provide a desired interaural time delay for use in said digital 3D sound system to create a perceived positional sound.

12. (original) The apparatus for providing an interaural time delay in a digital 3D sound system according to claim 11, wherein:

said desired interaural time delay relates to a desired interaural time delay for one ear of a listener; and

said first time delay relates to a desired interaural time delay for a second ear of said listener.

13. (original) The apparatus for providing an interaural time delay in a digital 3D sound system according to claim 11, wherein:

said plurality of available time delays are based on a sampling rate of a digital audio signal.

14. (original) The apparatus for providing an interaural time delay in a digital 3D sound system according to claim 11, further comprising:

means for fixing a first interaural time delay with respect to a first ear of a listener; and

means for providing said desired interaural time delay with respect to a second ear of said listener.